PETER ROWLANDS. **Oliver Lodge and the Liverpool Physical Society**, Liverpool Historical Studies, 4. Liverpool: Liverpool University Press, 1990. ISBN 0-85323-027-7. £15.00.

Two great heroes within my mother's limited intellectual horizons during the first years of this century were Sir Oliver Lodge and Sir Arbuthnot Lane, embracing between them the macrocosm and the microcosm; both were names found frequently in the newspapers of my boyhood. Lodge, born in the year of the Great Exhibition, died early in the last European war. The height of his authority was from about 1890 to 1920; during a portion of this time (1881–1900) he was Professor of Physics at the newly-founded University College of Liverpool. He went to this post as a young man who had still to make his name in science; he left it – for the initial Vice-

Chancellorship of Birmingham University – as a famous expositor of all those extraordinary advances in pure and applied physics that so distinguished the last years of the nineteenth century. In the early decades of the twentieth he was to become an equally sought-after lecturer on relativity and quantum theory.

Later generations have looked less kindly upon Lodge. Peter Rowlands mentions a photograph taken at the fourth assembly of the British Association at Liverpool (1923) showing 'Lodge in the company of Bohr, Aston, Ehrenfast, Langevin, C. G. Darwin, Lindemann, Glazebrook, R. H. Fowler and several others of equal distinction'. Probably everyone of those named has a more solid repute in the history of physics than has Lodge. Everyone who has ever read a paragraph about special relativity has heard of the Michelson–Morley experiment; how many have also heard of Lodge's equally painstaking, equally unrewarded endeavours to detect viscosity in the aether? This was a principal experimental concern of Lodge during his later Liverpool years, financed, as the Physics Department there had been, by the Holt family. In part the decline of Lodge's reputation was due to his excessive facility as a popular interpreter-critic of post-classical physics, in part to his eager inquiries into spiritualism. If he did not believe he certainly wished to believe; in the end the aether which had been the vehicle of light became the vehicle of dead souls. And in physics itself he too often backed the wrong horse. His best work was in electromagnetism and he deserves much praise for his early perception of the importance of resonant circuits in signalling. But he tried to develop wholly impractical methods to beat Marconi. His early notions about atoms and electrons were wholly mistaken – though he was often in distinguished company. Peter Rowlands writes that Lodge's aetherial language of physics was 'archaic' in 1923 (p. 275), but argues that many of his hesitations and scepticisms about both relativity and quantum theory were by no means inapposite, then or now.

The Liverpool Physical Society was an important means of expression for Lodge during its brief existence (1889–97) as a research society. From 1897 onwards it has continued its existence as a departmental, student society, to which Lodge, its President at the foundation, spoke on a number of occasions. Peter Rowlands' treatment, very complete and detailed for the nine years of the research society, is necessarily incomplete for Lodge as a scientist. True, he continues Lodge's career through the thirty years after he left Liverpool but he has not aimed at a complete scientific biography, even less at the 'life-story' such as Lodge published in *Past Years* (1931), still the obvious book for starting an approach to this bizarre, flawed, powerfully influential English physicist. The reader has to cope in Rowlands' book with a transition from the history of a minor society in which Lodge and his associates were dominant figures (pp. 1–174) to an account of Lodge as a participant in the debates about 'electrons' and waves, X-rays and radioactivity and above all and always the aether. There is no doubt that Lodge was a physicist heard with respect at the Royal Society, the British Association, the Royal Institution and the Physical Society (London), even by men of the calibre of J. J. Thomson, Joseph Larmor and Ernest Rutherford, as well as by later readers like my mother, in the popular press.

If Dr Rowlands' book is a little entangled, the depth and range of his investigation are beyond question. The present work suggests that he has within his power both a larger and more theoretical study of the decline and fall of the aether theory and a more sharply focused book on Lodge. Both would be worth having. But it is a very valuable contribution to have this study of one who was a principal actor – if not a principal progenitor – in the fascinating birth of twentieth-century physics. And at a very cheap price too.

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